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The Culture of GLADIOLUS

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GLADIOLUS provide flowering interest in August and early September, a period when many perennials have ceased blooming. Although they are somewhat stiff and formal in appearance for use in the general flower border, they may be so used by grouping them in clusters of three or four and planted among low-growing plants. The customary practice, especially when the flowers are grown for cutting, is to line the corms in rows.

Location

To insure a successful planting, give gladiolus full sun, good air circulation, and good drainage of excess soil moisture. Plantings made in the shade of buildings, too close to trees or shrubs, or on heavy soils are generally unsatisfactory.

Soil

Gladiolus may be grown satisfactorily in almost any type of soil, but you can expect much better results if the soil is a good garden loam containing enough humus. While the most favorable pH value for the soil is 6.5 or slightly on the acid side, gladiolus tolerate soils that are considerably more acid.

Whenever possible, prepare the section of the garden to be planted with gladiolus in the fall. Spade the soil or work it over to a depth of 8 inches; deep preparation is not always possible but gives superior results. Large lumps of soil should be broken up, but you need not pulverize the soil in the fall. Organic matter is best incorporated during fall preparation. You may use manure at the rate of 1 bushel to 1 square yard, or leaf mold at the rate of ½ bushel to 1 square yard, or enough peat moss to cover the surface of the soil 1 inch deep.

In the spring about two weeks before planting, rework the soil with a rotary hoe or a spade. Pulverize the soil thoroughly, so it is loose and friable. Finally smooth the surface with a rake to leave the ground ready to mark the rows and plant the corms.

Fertilizing

An application of a commercial fertilizer of the 4-12-4 or 6-12-6 formula is beneficial at planting time at the rate of 3 or 4 pounds for 100 feet of row area. After the corms have been set in the trench and covered with soil, apply the fertilizer and then fill in the remaining soil. Many growers prefer to apply one-half the fertilizer at planting time and to add the remainder as a top dressing six weeks

later. If you follow this method, apply the fertilizer close to the plants, but do not allow it to come in contact with them. With either method, water in the fertilizer. Never plant the corms in contact with freshly applied manure or inorganic fertilizers.

Planting

You can plant in the spring as early as the soil is dry and friable. As a general rule, planting at the time trees native to the vicinity are unfolding their leaves is satisfactory. Successive plantings can be made at two-week intervals until June 15. Under average storage conditions, there is a loss of vitality after that date if the corms are not planted. The latest planting date should allow from 75 to 90 days before the average date of killing fall frosts in your area.

Depth of planting varies with the type of soil and the size of corm. The largest corms, and especially those producing large-flowered heavy spikes, should be planted 6 inches deep. Plant average-sized corms from 4 to 5 inches deep, and small corms at a depth of 3 inches. You can plant very small cormels 2 inches deep along a trench. Plant deeper in light sandy soils and shallower in heavy soils.

The first operation in planting is to open trenches to a depth of 4 to 6 inches with a fork, spade, or plow attachment for a garden tractor. Loosen and level the bottom of the trench with a hoe. The trench should be 2 inches wide to accommodate a single row of corms. The customary procedure is to plant 2 rows in a wider trench, staggering the corms in such a way that a space of at least 2 inches is left between adjacent corms. Double-row planting at the rate of 8 corms to 1 foot is the most practical. The space between adjacent trenches depends on the system of cultivation but should be at least 18 inches for hand cultivation and about 3 feet for cultivation by tractor. Space large corms from 6 to 8 inches apart; the smaller sizes from 2 to 3 inches apart.

Just before planting, dust the corms with a fungicide such as Arasan, Tersan, or Spergon dust. When planting, set the corms right side up in the trenches because those placed on their side, or with the apical bud downward, may produce a large proportion of malformed plants which may be somewhat late to flower.

After the corms are set in the trench and the label is in position, pull the soil back into the trench and firm it lightly. If the soil is dry, a thorough watering will do much to aid early growth of the plants.

Cultivation

Hand weeding is the most efficient way to keep the planting clean. For mass plantings, 2-4 D is an effective weed-killer when used from 8 to 12 days after planting. One tablespoon of a 40% 2-4 D in 1 gallon of water is enough for 100 feet of row area. *When you use any herbicide, it is imperative that you follow all precautions and the directions printed on the label of the package.*

Continue weeding and cultivation at least once every 10 days throughout the season. Do not cultivate too deeply; a depth of 2 inches is enough and will not injure roots or corms.

Adequate soil moisture is one of the essential requirements in the successful cultivation of the gladiolus. It is particularly important immediately preceding the flowering period, and water may well be applied during any dry period. A thorough soaking is necessary to be effective. Unless the season is very dry, watering once a week should be enough.

Flowering

Date of blooming is influenced by the following: (1) condition under which corms are stored during the winter, (2) date of planting, (3) size of corms planted, (4) depth of planting, and (5) seasonal conditions.

Whether a group of varieties or a single variety is considered, the average date of bloom for large corms is usually from 3 to 4 days earlier than that for medium-sized corms, and from 10 to 14 days earlier than for small ones. For a single variety with a mixture of different sized corms, 50 per cent of the bloom may be expected during a period of 2 weeks. Thus if you have 10 corms of a variety, you may expect 5 of them to bloom during a period of 2 weeks and the remainder will be earlier or later. The influence of depth of planting on flowering date is less marked, although the corms planted deeper flower later than those of the same size planted shallowly.

Corms stored at temperatures around 35°F. flower later than identical ones stored at higher temperatures. For early blooms, start the corms in pots indoors April 15 and transplant them to the garden one month later.

To have flowers in bloom over a long period of time, have a number of corms of each variety; 100 corms of any variety, except the late-flowering ones, should provide at least one spike in excellent condition for exhibition at any of the gladiolus shows held in northeastern or central parts of the country. The corms should vary in size and should include all that will flower satisfactorily. Some of the corms should have been stored at 35°F. and others at 45° to 50° F. Finally, in the spring make a series of plantings at 2-week intervals.

Dusting

Troublesome insects may be controlled during the growing season by dusting or spraying with DDT or Malathion. If you grow exhibition specimens, begin the dusting when the plants are 6 inches high and continue at weekly intervals.

Digging

Usually corms left in the soil over winter do not survive freezing weather. Digging can be delayed until there has been a frost because corms and the small cormels increase in size throughout the frost-free growing season. In spite of this, some growers dig the corms of early flowering varieties eight weeks after flowering but it is better to allow them to mature as fully as possible. Dig the corms on a sunny day when the soil is rather dry. Loosen the soil about the plants with a spading fork so that you can easily remove the entire plant. Grasp the top and pull the plant out of the soil. Shake off most of the excess soil, doing this gently if you wish to save the small cormels. Discard and burn all diseased plants and corms. Cut the

tops close to the corms, letting the corms fall into a tray or basket. Keep varieties separate and include a label with each lot.

Curing

Place harvested corms on a cloth or burlap and leave them in the bright sunlight for a day or so. This allows them to dry and hastens curing. After drying, sift out the excess soil and place the corms in wooden flats or boxes. Trays with wire-screen bottoms are the most satisfactory.

Place the corms in a well-ventilated location for about three weeks. High temperatures of 80° to 85°F. during this period hasten curing and greatly hinder development of disease. Try to avoid greatly fluctuating temperatures, which cause condensation on the corms and thereby favor disease organisms. When the corms have cured after the three-week period, you can easily break off the old corms at the base of the new ones, discard these. You may save the small cormels for planting, to build up a stock of new vigorous corms. After cleaning, dust with Arasan or Spergon and keep the corms at 80°F. for a few days to hasten the formation of a corky layer at the scar, which delays or prevents the spread of disease.

Winter Storage

After curing, put the corms in cold storage until wanted for planting. For winter storage, use any containers that allow ventilation, such as paper boxes, open paper bags, cloth bags, or wooden trays with screen bottoms. Do not store the corms in tin or glass moisture-proof containers. Stack the containers to help air movement.

Corms are best stored at 35° to 40°F., but they do well even if the temperature occasionally drops to freezing. Avoid higher temperatures, especially later in the storage period, because these may cause premature sprouting. A good basement suitable for storing vegetables usually has the right conditions for storage.

Store corms for the earliest plantings at 75° to 80°F. near the furnace for about one month before planting, to provide earlier blooming.

Thrip Control

There are four good ways to control thrips and it is advisable to use them all. (1) Follow your DDT or Malathion spray program during the summer. (2) Cut off the tops close to the corms; most of the thrips will be discarded along with the tops. (3) Dust the corms with DDT powder after digging and again after cleaning. The best method is to put a spoonful of DDT powder in a paper bag, add some corms, and shake the bag vigorously until the corms are well covered with the powder. (4) Store the corms during the winter at the cooler temperatures which is too low for thrips to injure the corms or to build up large populations.

Exhibiting

Exhibitors may obtain a list of varieties from the North American Gladiolus Council, 2420 East 25 St., Des Moines 17, Iowa.

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